

Application and Investigation of Peer Teaching Model in Clinical Practice Skills Teaching

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Abstract

Peer practice teaching is a kind of student-oriented teaching method, which refers to the teaching of clinical skills, so that students can learn and practice independently, teach each other, correct each other, and think and exchange and discuss within the team, and no longer just directly inculcate the content of the study to the students, but provide students with problematic situations, some clinical cases and problems in the course, so that students can actively think, independently explore, conducting practical activities on their own. The application of peer education teaching in the reform of clinical skills teaching promotes interns' independent learning and exploration skills, strengthens memory and effectively reinforces skills. The peer teaching model is rooted in the clinical skills teaching reform model, and its advantages and limitations in clinical skills teaching are studied. The study finds that the peer teaching mode breaks the traditional teaching too single duck teaching situation, and greatly cultivates the medical students' independent thinking and exploring problem ability. Peer education exists for the cultivation of students' ability to explore and think, and the self-exploration, self-answer, and self-extension classroom can enhance undergraduates' thinking ability and make students change from passive acceptance of knowledge to independent demand for knowledge, which can play an indispensable role in cultivating the clinical thinking of interns and promoting the development of clinical practice-oriented talents.

Keywords: peer education, clinical skills, teaching methods, teaching reform, clinical teaching

1. Introduction

Peer education, also known as partner education, is a form of education in which people with certain similar characteristics (e.g., age, background, educational stage, etc.) learn together and influence each other so as to achieve common learning goals (Nie Xiangyi &

Wang Runian, 2024). Peer education for college students refers to educators give full play to the role of college students' partners (Fan Lu & Zhai Ziyi, 2024), planned and purposeful organization of college students to teach each other learning, life, work and other aspects of experience, timely exchange of ideas, psychological exchanges and communication,

guiding partners to do their best to give each other spiritual encouragement and learning to help each other, so that each other to fully experience the love and care of the partners around them, so as to see the wise and clear, and to achieve complementary advantages, mutual promotion, and to achieve the goal of mutual improvement, and to achieve the goal of common learning. Realize the complementary advantages, mutual promotion, common growth of the educational approach (Wang Ying et al., 2024; HOU Huihui, TANG Zhenkun & LI Qian, 2023). Because of the commonality of age, interest, attitude, values, social status and other aspects of the university student group, they are often able to listen to or adopt the opinions and suggestions of their peers.

Clinical skills are medical students must master professional knowledge and technology, belong to the practical professional application, but for a long time our country's medical school more one-sided emphasis on teachers, books, classroom-centered, teachers one-way lecturing students' passive acceptance, the lack of interaction between teachers and students, students lack of learning enthusiasm and initiative (Li Liu-Lan & Zhou Li-Jun, 2024; Li Panyi et al., 2024; YANG Hui et al., 2024). Peer teaching mode is in the same undergraduate medical students in the internship phase of standardized training, after passing the examination to all students to carry out skills teaching, respectively, the teaching content in the group to carry out discussion, demonstration, teaching, and ultimately by the teacher unified organization of the assessment, and in the post-course summaries and theoretical supplements. Peer teaching mode defines students as the main implementer of classroom teaching, through the bond and connection between friends and classmates, based on the peer relationship as the main carrier of the teaching carried out by classmates with classmates, friends with friends to continuously strengthen the memory, effectively promote the continuous deepening of knowledge, so that students independently learn the concepts and think about the principle of self-exploration, self-answers, self-extension, so as to achieve the interns wholeheartedly devoted to the classroom. The common traditional teaching is the teacher teaching textbook content knowledge, students listen to the class, passive acceptance of knowledge,

teachers and students in the classroom often lack of interaction and communication, and the traditional teaching method of the classroom to the teacher to explain, students end of the textbook to listen to, will inevitably result in the passivity of the students to learn and difficult to wholeheartedly engaged. Peer teaching mode is the sublimation of the traditional teaching method, is a form of active acquisition of knowledge, cultivate the ability to think (LI XING et al., 2024), can enhance the ability of students' comprehensive practice, exercise students' clinical thinking ability, improve students' interest in learning, so that the quality of teaching can be further improved, and compared with the traditional mode of instruction has significant advantages.

2. The Necessity of Implementing the Peer Teaching Model in Teaching Clinical Skills

Clinical skills are a necessary and directly determine the watershed of the high and low level of the comprehensive level of clinicians in the teaching of clinical medical disciplines, involving the whole, individual, multi-systems, multi-organs, multi-dimensional disciplines, and the clinical disease is also complex and variable (Li Xiao et al., 2024). Lack of thinking about copying knowledge from textbooks, and one-dimensional filler lectures gradually show a series of problems, and lack of thinking about the disease is very difficult to think and judge. Then how to make undergraduates in the case of solid theoretical knowledge, but also have a strong more clinical analysis ability and application of practical ability, to meet the needs of contemporary society for medical personnel, is the main goal of the current era of development of teaching reform, but also clinical skills teaching on the important issues faced. Peer education through the students to teach the basic theory and practice of teaching, by the communication between the group practice, skills demonstration, by the students to discuss with each other to find the answer, the groups summarize the answer to the question, the teacher to summarize, correct, deepen, summarize and so on. This kind of learning, teaching, research are by the students self-study, self-discovery, self-thinking, self-solution, with the students as the main body, the teacher as an auxiliary, so that the teaching from the one-way filler to the students' independent search for knowledge mode, the teacher demonstrates the traditional classroom into a peer classroom

students actively participate in the textbook of the theoretical knowledge of the textbook to learn and utilize the clinical skills skillful use (Guo Zhenlei, 2024). Subconsciously cultivate clinical thinking ability, and lay the foundation for becoming a clinician with solid theory and pure skills in the future.

3. The Use of Peer Education Model in Teaching Clinical Skills

3.1 Peer Teaching Classroom Design

Some scholars advocate that teaching and learning activities should combine learning knowledge and exploring knowledge, so that students can develop their own reasoning thinking skills through the process of discovering concepts by themselves. The classroom design of the peer teaching model is as follows.

3.1.1 Starting with Interest and Seeking Knowledge

Peer teaching mode should be proposed from the students' interest in the problem, simulating the clinical really case, for example: in the clinical skills teaching, the real clinical cases as an entry point, through the changes in the condition to carry out the corresponding skills operation, the students in the interest of the with the validation of self-governance to produce a strong problem-solving motivation, which is conducive to the students to explore the problem and discover the problem.

3.1.2 Teaching and Practicing the Foundations of Reasoning

The leader of each team is responsible for recording and organizing the problems mentioned by the students in the team, carrying out discussions and exchanges within the group, and helping the team members to categorize and analyze the existing problems. Teachers guide students to combine textbook knowledge with clinical case knowledge, and then finally put forward a variety of assumptions, guiding students to think out of the box. Teachers should make a good plan for the lesson before the lesson, and make a plan for the questions and solutions that students may ask during the lesson. In the clinical time teaching, teachers can give students a simple theoretical knowledge to pave the way in advance, so that students can master a simple theoretical basis for the upcoming skills practice teaching, on this basis to introduce clinical cases, ask students to put

forward their own diagnosis of the case, to guide the students to think and ask questions, summarize the characteristics of the case with the knowledge learned in the classroom, put forward the basis for diagnosis and diagnostic and treatment plan, leading to the main skills operation. The students will be divided into 6-8 groups. Divide all students into 6-8 groups, each group of 6-8 people, the clinical case by group distributed to students, let students discuss by group, require each student to actively participate in the group's case discussion, encourage each student to put forward their own questions, the group began to practice skills teaching and discussion, the group collects the problem of the group first in the group students self-discussion, each other to answer members of the problem to seek answers, and finally classes in the comprehensive question to collect more questions related to the case, the questions will be synthesized by the teacher to summarize and organize, to answer the students related questions, and in-depth explanation of the pathological mechanisms and practical skills points.

3.1.3 Synthesize Critiques to Encourage Skepticism

Peer education emphasizes process, and the teaching process involves 3 processes that occur almost simultaneously: acquisition of new knowledge, conversion, and evaluation. Therefore, classroom performance is recorded and grades are evaluated during the teaching process. Teachers should actively encourage students to think and explore in the classroom, guide students to actively explore the problem, actively acquire knowledge of the problem and judge the correctness of knowledge. In the answer to the question, the teacher should not just deny the students' wrong answers, but should understand the origin of the students' answers and correct them. To actively encourage students to ask questions.

3.2 Limitations of Peer Education in Teaching Clinical Skills

First of all, the peer teaching mode, as a new type of teaching method, mainly relies on students' subjective initiative and pays more attention to students' independent learning, which is usually based on students' independent inquiry and mutual cooperation, so that students' cognition, motivation, and behavior can be effectively brought into play. But the peer

education model often exaggerates students' learning ability, ignores the importance of basic knowledge learning, and neglects the fact that the in-production process of knowledge is not the production process of knowledge (MU Rongrong et al., 2024). And in clinical practice, the variety of diseases, knowledge is complicated, if ignored to the students' knowledge of the basic diseases, then let the students independently explore that is also not any meaning. Secondly, the peer teaching mode is time-consuming, the teacher from the explanation of the basic knowledge, to the group within the exploration, practice, discussion, answer, and then to the teacher's final summary, the peer teaching mode in a short period of time to the students to teach a certain amount of knowledge and skills still need to be further optimized in the proportion of classroom time allocation.

4. The Significance of Peer Education in Teaching Clinical Skills

4.1 Facilitates the Stimulation of Students' Clinical Thinking

In the undergraduate textbook is a single type of disease, a single disease to write the mechanism of the disease, clinical manifestations and treatment, and the traditional fill-in-the-blank teaching, the students' thinking will be fixed with how to diagnose, treat, and intervene from the clinical manifestations, which will lead to the establishment of the students' cognitive knowledge of the disease is too one-sided, and when the same skills are applied to other diseases, the students are mostly unable to apply the same skills in the first time. When the same skill is applied to other diseases, students are mostly unable to utilize it flexibly in the first place. The peer teaching model combines clinical cases with textbook materials to explore and discover the connection, identification, symptoms, treatment and regression of diseases from real cases, which can strengthen the attributes of skills and advance students' knowledge of diseases from a single disease to a class of symptoms and signs. The use of the peer teaching model in clinical skills teaching does not mean that students get the concept or manifestation of a certain disease from the teacher's explanation, but in the clinical case study situation organized by the teacher, through the students' own exploration, the mutual correction of errors among classmates and the sharing of experience to link the changes

of the disease with clinical skills, to find the differences in the whole and to seek unity in the differences (LIN Hongcheng et al., 2024). Peer education enables students to acquire knowledge in a way that makes their minds personally accessible, and the discovery method of teaching is an embodiment of demonstrating students' mental thinking and promoting students' acquisition of knowledge while stimulating clinical thinking.

4.2 Facilitate the Development of Students' Intrinsic Motivation for Self-Motivation

Intrinsic motivation is the motivation of human beings due to the interest in the thing itself; intrinsic motivation is the need for no other factors to interfere or for the fear of punishment to keep the action directed toward the goal. It is simply because the action itself is a motivation. In traditional fill-in-the-blank teaching, the inconsistency between the content of traditional skills teaching and the students' intellectual curiosity about the focus of disease diagnosis and treatment has resulted in a "dissonance" between motivation and interest, making it extremely difficult to stimulate the students' cognitive interest in the disease itself and their desire to learn. The use of peer teaching mode, in the content from the teaching objectives, in the method of peer initiative to seek knowledge, from the life of the clinical case material and a variety of ways to present, in a lively way so that students are eager to learn about a certain skill in clinical practice, indications, contraindications, and how to maintain the treatment, in-depth investigation of the disease healing and regression, arousing the students a strong curiosity to promote the discussion of the topic of the degree of the group. Heat, which will form a further desire to understand the cognitive exploration of the key points of the operation of the skills, fully mobilize the internal motivation of students to learn. When students are recognized in internal motivation, a strong sense of satisfaction will be generated to induce a new round of students to generate learning expectations (Zhu B, Feng L & Wu XL, 2024). Learning motivation must be based on interest and innovation. However, it is worth noting that teachers should pay attention to guiding students' attributional tendency towards skill manipulation so that they can find out the correct way of attributing skill manipulation and avoid the feeling of student helplessness caused by too much difficulty and students' inability to

start. Appropriate classroom exploration competitions will help to increase students' interest and perseverance in overcoming difficulties, and correct evaluation and rewards will be given so as to consolidate students' motivation to learn.

4.3 Facilitate Students to Improve Their Problem-Solving Skills, Exploration Skills

Peer teaching mode in clinical skills teaching to solve the problem of the presentation of students and teachers put forward a great deal of space for reflection, skills teaching is not like the theoretical teaching in the school of a single disease exposition, but more comprehensive, challenging. Diseases do not simply stay in the process of "how to happen, what performance, how to treat", but in the process of disease development will have what complications, and treatment will encounter a variety of problems. For example: how to prevent, how to delay, how to regression, etc., and so on is a problem in front of the textbooks and clinical a hurdle, but in the crossing of this hurdle at the same time, the students will find and solve problems to improve and exercise the ability. Peer teaching mode in the use of clinical skills teaching so that students in the clinical practice and the textbook can be effectively connected, and in the process of problem solving, feel different people, different ways of thinking, different ways of solving the same problem due to the different points of observation of each student, is that there can be countless different ways of solving the problem (ZHANG Huiqun et al., 2023). Let them compare the advantages and disadvantages of each solution while experiencing and summarize their own problem-solving strategies.

4.4 Discovering the Results of Learning Facilitates the Retention of Students' Memories

The memories that people keep in their minds are selective, and if the memories appear only for a certain purpose, once the purpose is realized, the memories of the changed purpose will usually be forgotten immediately. In traditional practical teaching, if students are only required to imitate the process of the textbook content of the assessment tasks, then when the assessment is passed, the basic knowledge of the skills and the operation of the main points will be naturally forgotten over time. To retain knowledge for a long period of time and to enable this knowledge to enter the

long-term memory system, students need to think about how to make this learning content enter the long-term memory system of the brain, and also consider how to facilitate the retrieval of knowledge afterward. Incorporating the concept of peer education into it allows students to communicate, discuss, and express their opinions when they have complementary views, all of which are conducive to the retention of students' memories and deepen the memory nodes. The peer education model requires students to fully mobilize and think about the knowledge they have learned, use the knowledge in their original memory to answer questions, use the knowledge in the textbook to supplement their own, and constantly review and link the knowledge to enhance their memory. Memory formation is selective. New information is encoded into the memory system, and its retention time varies according to the degree of processing. In the process of memory formation, people encode into the memory system what they consider important and forget what is less important. Just as in the learning process of internal science, if one learns with questions and purpose beforehand, the effect must be more profound and long-lasting than if one blindly listens to the teacher's explanations and listens aimlessly to the lectures (Xu Na, Yang YF & Fu ZS, 2023). For example, when students look through a disease, leaving a general impression of the disease in their minds, if they explore with questions, they will easily find out the key content of the disease, review the identification of previously learned diseases, to find out the differences, so it will be easier to remember the skill indications for the operation of the main points, but also review the content of the other diseases, which is conducive to the retention of memory of knowledge.

5. Conclusion

At present, the rapid development of medical technology, and China's requirements for new medical personnel is also increasing, which requires clinical skills teaching must be high standards and strict requirements. However, examining the current status quo of clinical medical teaching, it is found that there are many shortcomings, such as the old teaching mode cannot keep up with the teaching requirements, the quality of teaching is uneven, the teaching content cannot fully meet the needs of practice, clinical needs, and students lack of basic skills training. Against the background of the

imbalance between the requirements and the actual situation, the first step we have to take should be to change the teaching mode. "Ducking teaching" is a static view of teaching that people criticize and try to change (Zhou Lingwei, Lu Chen & Nie Wei, 2022). The peer teaching model breaks the situation of duckling teaching in statistics, and forms a reflective classroom with one student as the theme and a team as the unit, with self-exploration, self-answer, self-extension, and mutual promotion within the team, which greatly cultivates the ability of undergraduate medical students to think independently and explore the problems (Chen Tingting & Deng Wenwen, 2022). The peer education model exists for the cultivation of students' exploration and thinking ability of clinical practice skills, which can enhance the clinical thinking ability of interns, and make students change the pattern of passive acceptance of knowledge into the teaching of independent demand for knowledge, which can play an indispensable role in cultivating undergraduates in medicine's clinical thinking, promoting clinical skills as well as advancing the development of clinical practice-oriented talents.

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